USSR/Cultivated Plants. Grains. M

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20244.

Author : N.M. Boyarovich
Inst : Not given.
Title : The Agrotechny of Winter Wheat in South East Kazakhstan.
(Agrotekhnika ozimoy pshenitsy na yugo-vostoke Kazakhstana).

Orig Pub: Sovkhoznoye proiz-vo, 1957, No 8, 31-36.

Abstract: No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24657

Author : Boyarovich, N. M.
Inst : Alma-Ata Selection Station.
Title : Fenugreek in the Fertilization of Vegetables.

Orig Pub : Udobreniye i urozhay, 1958, No. 5, 22-25

Abstract : According to experimental results in the Alma-Ata Selection Station, fenugreek Trigonella or fenugreek Trigonella foenum graecum L. in the fertilization of vegetables secured a high increment in the crops of potatoes and winter wheat. In the south, under conditions of irrigation agriculture and unsupported "bogaras"

Card : 1/2

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24657

Author :
Inst :
Title :

Orig Pub :

Abstract : [a designation for crops cultivation in Central Asia without artificial irrigation], ir deserves a wide industrial check-up. — N. N. Sokolov

Card : 2/2

BOYAROVICH, N.M.

Corn is the cheapest feed. Zhivotnovodstvo 20 no. 10:41-42 O '58.
(MIRA 11:10)

1. Zaveduyushchiy otdelom agrotekhniki i mekhanizatsii, Alma-Atinskaya selektsionno-opytnaya stantsiya instituta kukuruzy.
(Corn as feeding stuff)

SERGEYEV, L. A.; BOYAROYTS, A. A.; CHURLIN, V. V.; SOKOLOV, O. N.

Acoustical pulse logging of a cased well. Geol. nefti i gaza 7 no.1:56-60 Ja '63. (MIRA 16:1)

(Oil well logging, Acoustical)

BOYARSHINA, A.P.; VASIL'YEVA, A.I.; SHARAPOV, V.N.

Genetic characteristics of the Medvezh'ye deposit in the Kaz group of iron ore deposits. Geol. i geofiz. no.2:149-152 '65. (MIRA 18:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk, i Zapadno-Sibirskoye geologicheskoye upravleniye, Novokuznetsk.

BOYARSHINOV, A.

"Metallurgiia" pavillion at the Exhibition of the Achievements of the National Economy of the U.S.S.R. Metallurg 9 no.5:1-2 My '64. (MIRA 17:8)

1. Direktor pavil'ona "Metallurgiya" na Vystavke dostizheniy narodnogo khozyaystva.

BOYARSHINOV, A.A.

"Metallurgiia" Pavilion at the Exhibition of the Achievements of the National Economy of the U.S.S.R. Stal' 24 no.7:670-671 Jl '64. (MIRA 18:1)

1. Direktor pavil'ona "Metallurgiya" na Vystavke dostizheniy narodnogo khozyaystva SSSR.

CHECHULIN, V.A.; BOYARSHINOV, G.I.

Capillary interaction of the metal and the molding materials. Izv. vys. ucheb. zav.; chern. met. 4 no.12:149-156 '61. (MIRA 15:1)

1. Ural'skiy politekhnicheskiy institut.
(Molding (Founding)) (Capillarity)

BOYARSHINOV, I.M.; PIMENOV, A.F.

Best diameter for the working rolls on the first stand of a skin rolling mill. Stal' 21 no.9:811-816 S '61. (MIRA 14:9)
(Rolls (Iron mills))

L 06452-67 EWT(l)/EWT(m)/EWP(t)/ETI LJP(c) JD/WW/HW/JG
ACC NR: AP6024540 SOURCE CODE: UR/0089/66/021/001/0042/0043

AUTHOR: Boyarshinov, L. M.

ORG: none

TITLE: Reflection of electrons of energy 250 - 1200 kev

SOURCE: Atomnaya energiya, v. 21, no. 1, 1966, 42-43

TOPIC TAGS: electron reflection, electron energy, atomic property, metal physical property

ABSTRACT: This is a summary of article no. 87/3623, submitted to the editor and filed, but not published in full. The author measured the coefficients of reflection of electrons from bismuth, tin, molybdenum, iron, and copper by gathering the reflected electrons in a Faraday cup and measuring the current with a microammeter. The results show that the reflection coefficients for 1200-kev electrons are approximately 15% lower than for 250 kev. This decrease of the reflection coefficient with electron energy was established in this work for the first time for the 250 - 600 kev energy region and confirmed for the 600 - 1200 kev region. The measurement results agree well with other published data. A plot of the reflection coefficient of 18 elements against the atomic number Z of the element, for 250-kev electrons, shows that the reflection coefficient increases like Z^n, with n increasing with increasing energy. This points to the advisability of using hard radiation sources for practical applications. The results do not agree with conclusions by L. Danguy (Inst. Interuniv. Sci.

Card 1/2 UDC: 539.124: 539.121.72

L 06452-67

ACC NR: AP6024540

Nucl. Monographie no. 10, 3, 1962) that nickel has an anomalous reflection coefficient. Orig. art. has: 2 figures and 1 formula.

SUB CODE: 20, 18/ SUBM DATE: 18Feb66/ ORIG REF: 003/ OTH REF: 003

nuclear metallurgy

Card 2/2

ACC NR: AP7002167 (A, N) SOURCE CODE: UR/0089/66/021/006/0497/0497

AUTHOR: Boyarshinov, L. M.

ORG: none

TITLE: Angular distribution of multiply reflected Beta radiation

SOURCE: Atomnaya energiya, v. 21, no. 6, 1966, 497

TOPIC TAGS: beta radiation, angular distribution, radiation source, radiometry

ABSTRACT: This is a summary of Article No. 116/3732, submitted to the editor and filed, but not published in full. The author investigated the angular distribution of repeatedly reflected radiation, produced when a source is located on the side in a gap between two parallel plates whose spacing could be varied. An end-window counter (BFL-25) was used for the measurements. The test established that at small distances between plates the angular distribution of the repeatedly reflected radiation has two maxima at angles 120 and 90° to the surface of the reflectors. When the distance between plates exceeded 3.0 cm, only one maxima observed at 90°. The causes of this phenomenon are explained. It is shown that in the case when an annular source is used, for arbitrary distances between plates, it is most advantageous to measure the radiation that emerges normally to the surface of the second reflector. This should be taken into account when constructing instruments for radiometric analysis of mixtures

Card 1/2 UDC: 539.144:539.121.72:543.52

ACC NR: AP7002167

and compounds by measuring the intensity of repeatedly reflected radiation. Orig. art. has: 2 figures.

SUB CODE: 18, 20/ SUBM DATE: 12May66

Card 2/2

ACC NR: AP7003199 SOURCE CODE: UR/0056/66/051/006/1609/1612

AUTHOR: Boyarshinov, L. M.; Senyavin, M. M.

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: Positron reflection from elements and alloys

SOURCE: Zh eksper i teor fiz, v. 51, no. 6, 1966, 1609-1612

TOPIC TAGS: electron reflection, positron, alloy composition, metal analysis, positron reflection

ABSTRACT: The main purpose of the investigation was to determine whether reflection of electrons or positrons from a target consisting of several elements (alloy or chemical compound) can be used as a means of determining the content of some of its components. To this end, the coefficients of electron and positron reflection from 17 pure elements (Be, C, Al, Si, Ti, Fe, Ni, Cu, Z n, Zr, Nb, Mo, Cd, Sn, Ta, Pb, Bi) and 7 alloys (three Sn-Pb, one Ta-Nb, two Cu-Zn alloys and 79NM5 permalloy) were measured, using Na^{22} as the positron source and Tl^{204} as the electron source. In addition, the reflection attenuation produced by filters of varying thicknesses was measured. The detector was an end-window counter (BFL-25) or an ionization chamber. The measurements showed that for light elements ($Z < 25$) the ratio of the electron to positron reflection coefficients increases rapidly with increasing atomic number, starting with 1.00 for Be and assumes a nearly constant value close to 1.30 for elements with $Z > 25$.

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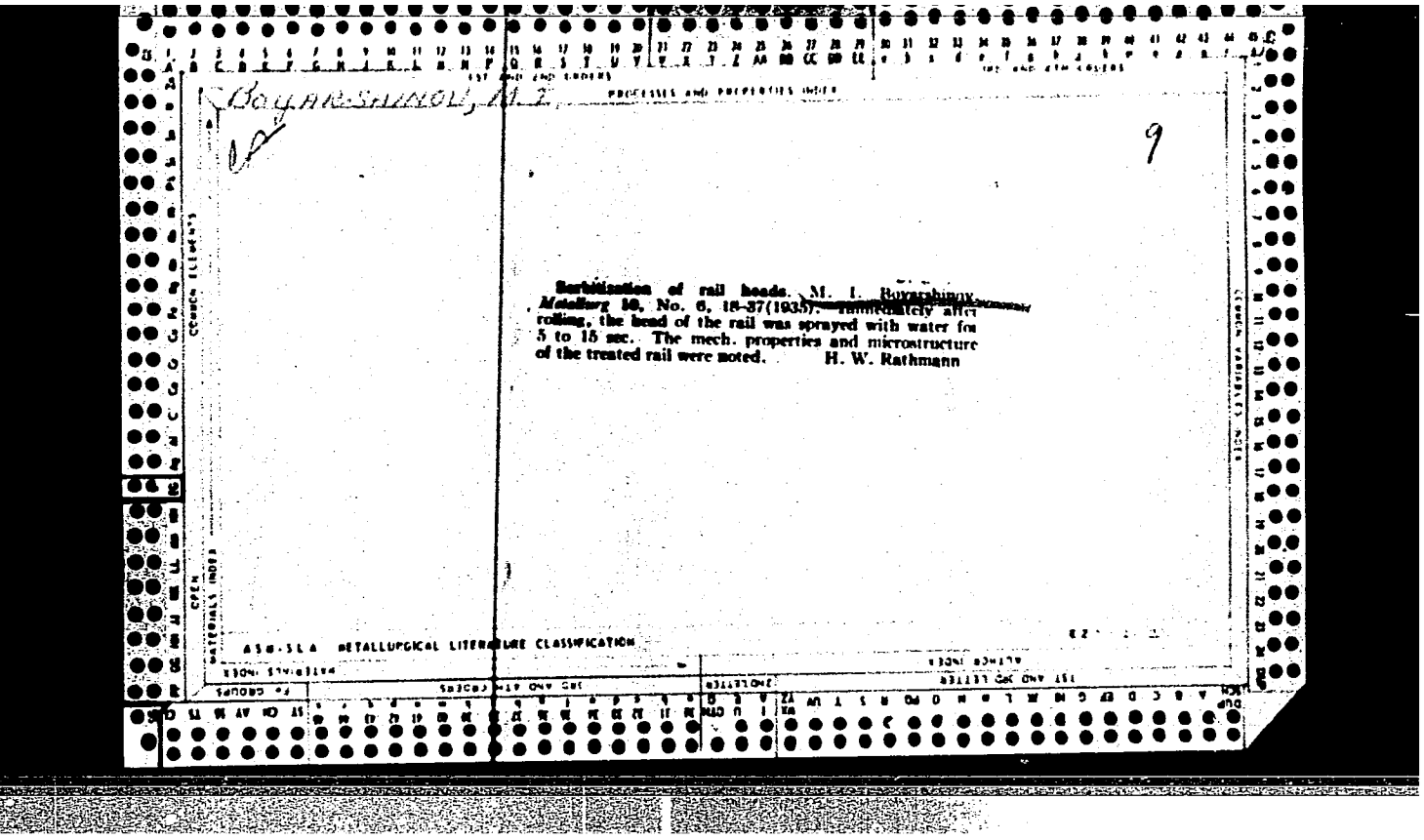
ACC NR: AP7003199

This confirms earlier results by others. The attenuation curves obtained for a tin-lead alloy with effective atomic number 73 were identical to those obtained for pure tantalum with the same atomic number, thus precluding the use of electron and positron reflection for the purpose of analysis or identification of elements in alloys. The relation established by R. Muller (Phys. Rev. v. 93, 891, 1954) holds true for multi-component mixtures of heavy and medium elements, but no confirmation of the Muller relation can be deduced from the data on light elements. Neither do the data confirm the anomaly observed by Danguy (Inst. Internat. Sci. Nucl. Monographie no. 10, 1962) in the reflection coefficient of nickel. Orig. art. has: 2 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 18Apr66/ ORIG REF: 001/ OTH REF: 004

Card 2/2



Baykanshikov, M. I.

9

Sorbitization of rail heads. M. I. Bayanshinov. *Metallurg* 10, No. 6, 18-37(1935). Immediately after rolling, the head of the rail was sprayed with water for 5 to 15 sec. The mech. properties and microstructure of the treated rail were noted. H. W. Rathmann

A56-51A METALLURGICAL LITERATURE CLASSIFICATION

SOV/137-58-8-16871

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 93 (USSR)

AUTHORS: Boyarshinov, M.I., Polyakov, M.G.

TITLE: A Rational System of Pass Grooving for the Rolling of Copper-clad Steel Wire Rods (Ratsional'naya sistema kalibrovki dlya prokatki medestal'noy katanki)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii. Ukr. resp. pravl., 1957, Vol 2, pp 193-207

ABSTRACT: A study is made of the change in shape of clad metal and its components in various systems of rough reducing and finishing passes for the rolling (R) of copper-clad steel wire rods. It is established that the resistance to deformation (RD) of the clad metal in R flat samples on smooth rolls approximates the mean of the RD of steel and Cu, although it is somewhat above that figure. With equal reductions and cross sections, the RD of the clad metal is virtually identical in various passes (oval-oval, square-square, etc.). The spread of the clad metal was, in all the pass systems tested, less than the spread of Cu and steel, and in R on a smooth roll it was halfway between that of the two or exceeded them (depending upon the reduction). The

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A Rational System of Pass Grooving for the Rolling (cont.)

outer, Cu, layer, undergoes less reduction than the steel core and displays less spread; spread is either lacking or is of measurable negative value. When drafts are small, the core does not acquire the shape of the pass, and this causes the Cu to overflow into the shell, causing forces to develop that bend the shell at the pass parting lines. The phenomenon of overflow, depending upon the unevenness of deformation across the height of the pass, may be employed to thicken the Cu layer in the required location by the use of adjacent passes of different shape or by R an oval strip in a subsequent oval horizontal pass without tilting. The best system of passes for production of high-quality copper-clad steel rods is the oval-oval followed by a square-oval-round series of passes.

V.D.

1. Rods--Production 2. Steel--Coatings
3. Copper coatings 4. Rolling mills--Operation

BOYARSHINOV, M. I.

137-58-3-5464

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 139 (USSR)

AUTHORS: Boyarshinov, M. I., Zamoruyeva, I. N.

TITLE: Various Factors Affecting Bonding of Copper With Steel in the Solid State (Vliyaniye razlichnykh faktorov na stsepleniye medi so stal'yu v tverdom sostoyanii)

PERIODICAL: Sb. nauchn. tr. Magnitogorskiy gornometallurg. in-t, 1957, Nr 11, pp 161-176

ABSTRACT: Investigations were performed in order to determine the effect of temperature, pressure, and surface condition on the cohesive force (CF) between Cu and mild steel resulting from pressing together of these metals in their solid state. The CF was studied by means of subjecting specimens (S) to tensile stresses, while its boundaries were studied by methods of metallographic analysis. The experimental S consisted of two steel cylinders 28-30 mm long and 14 mm in diameter with a 1-2 mm thick circular Cu plate inserted between them. The S was placed into a special apparatus, where it was subjected to compression at different temperatures. Prior to the experiment the surface of the S was degreased. In order to facilitate cohesive bonding,

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137-58-3-5464

Various Factors Affecting Bonding of Copper with Steel in the Solid State

the surfaces of the steel specimens were copper-plated. It is found that copper-plating the surface of the S's prior to their being subjected to compression at a temperature of 950° results in improved cohesion under small pressures (below 4.5 kg/mm^2). Reducing the thickness of the Cu insert increases the CF between the metals. At pressures in excess of 2.9 kg/mm^2, 850° is the minimum temperature required for bonding of copper-plated S's. A decrease in temperature sharply reduces the CF.

G. A.

Card 2/2

BOYARSHINOV, M.I.

PHASE I BOOK EXPLOITATION SOV/3226

Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya na temu: "Sovremennyye dostizheniya prokatnogo proizvodstva."

Trudy...(Transactions of the Intercollegiate Scientific and Technical Conference on Recent Achievements in the Rolling Industry) Leningrad, 1958. 251 p. 1,000 copies printed.

Sponsoring Agencies: Leningradskiy politekhnicheskiy institut im. M.I. Kalinina, Nauchno-tekhnicheskoye obshchestvo mashinostroiteley, Leningradskoye otdeleniye, and Nauchno-tekhnicheskoye obshchestvo metallurgov, Leningradskoye otdeleniye.

Resp. Ed.: V.S. Smirnov, Doctor of Technical Sciences, Professor; Ed.: N.N. Pavlov.

PURPOSE: These proceedings of the conference are intended for specialists in the rolling industry.

COVERAGE: The articles of this collection cover various theoretical and practical problems of rolling, such as: pressure, spread, efficiency of rolls, determination of deformation, forces required, pass design, optimum conditions for rolling, experiences of various plants, modernization of equipment, aluminum-clad steel, and rolling of nonferrous metals. No personalities are mentioned. References appear after each article.

SOV/137-58-12-24438

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 70 (USSR)

AUTHOR: Boyarshinov, M. I.

TITLE: A New Procedure for Producing Bimetallic Copper-and-steel Wire Rods by Metallurgical Means (Novaya tekhnologiya metallurgicheskogo sposoba proizvodstva medestal'noy katanki)

PERIODICAL: Tr. Mezhvuz. nauchno-tekhn. konferentsii na temu: "Sovrem. dostizh. prokatn. proiz-va". Leningrad, 1958, pp 131-135

ABSTRACT: An automatic line for production of bimetallic copper-and-steel wire rods (R) by a metallurgical procedure, employing induction heating of a moving endless steel core onto which Cu is continuously poured, is suggested. The steel R, 18 mm in diam and having an etched surface, is placed on a roller conveyor. The front end is clipped by shears and goes to a welder where it is welded to the tail of the preceding coil. Vertical transporting rollers deliver the R through a looping bin to a roller conveyor with rollers of opposing arc. The scale is cracked off owing to the double curvature. The R then goes through a shot-blasting equipment and a surface-quality gage controlling the work of steel brushes which further cleanse the surface of the R

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A New Procedure for Producing Bimetallic Copper-and-steel Wire Rods (cont.)

where necessary. The R then passes through the induction coil at a rate of 0.2 m/sec, where it is heated to 1050-1100°C in 5 sec. The heated rod is lowered into a crystallizer, and molten Cu is poured over it. The thickness of the layer applied is 3 mm. The funnel-like mold is mounted over a universal type of rolling device, where the bimetallic copper-and-steel rod, 24 mm in diameter, is subjected to reduction by a factor of 1.4 and emerges with a 17x17 mm cross section. The rod is then bent and proceeds to a finishing group of three stands where it is thinned down to 10-12 mm. Shears cut the R and direct it to one of the coilers. The weight of a coil is governed either by a time relay or a length counter. Annual output of an automatic line is 17,000 t, 140 workers being required.

Ya. G.

SOV/133-59-2-12/26

AUTHORS: Boyarshinov, M.I., Candidate of Technical Sciences, Docent
Shulayev, I.P., Engineer

TITLE: Rationalisation of Roll Pass Designs of Continuous Billet Mills (Ratsionalizatsiya kalibrovok nepreryvno-zagotovochnykh stanov)

PERIODICAL: Stal', 1959, Nr 2, pp 137-141 (USSR)

ABSTRACT: On the Magnitogorsk Works continuous billet mills 630 and 450 were erected in 1933-1934 and 720 in 1941. During subsequent operation of these mills a large amount of research work on the improvement of their operation has been carried out. This resulted in the installation of additional equipment and redesign of roll passes. It is claimed that at present the productivity of the above rolling mills is the highest in the world. In the paper a brief description of changes in rolling practice, installation of new equipment and redesign of roll passes is given. The initial and subsequent distribution of the equipment of blooming mill is shown in Fig.1, 2 and 6. Characteristic data for the equipment of mills 630 and 450 are given in tables 1 and 2 respectively and the roll passes for mills 630, 450 and 720 in Fig.3, 4 and 7

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Rationalisation of Roll Pass Designs of Continuous Billet Mills

respectively. The most important improvements achieved on the modernisation of auxilliary equipment of the mills are as follows: replacement of hot cutting shears for blooms and billets by more powerful ones; installation of turn tables in front of mills 630 and 720; replacement of helical guides by a turning roll of the S.V.Merekin system and the change of the reducing gear of the 450 mill (to increase rolling speed by 33.6%). There are 6 figures and 2 tables.

ASSOCIATION: Magnitogorskiy Gorno-metallurgicheskiy Institut i Magnitogorskiy Kombinat (Magnitogorsk Mining and Metallurgical Institute and the Magnitogorsk Combine)

VYDRIN, Vladimir Nikolayevich; BOYARSHINOV, M.I., prof., retsenzent; LYASHKOV, V.B., dotsent, red.; SKOROBOGACHEVA, A.P., red. izd-va; TURKINA, Ye.D., tekhn.red.

[Dynamics of rolling mills] Dinamika prokatnykh stanov. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1960. 255 p. (MIRA 13:7)

(Rolling mills)

18.5000

77697
SOV/148-60-1-20/34

AUTHORS: Arkulis, G. E., Boyarshinov, M. I.

TITLE: Conditions of Uniform Deformation During Joint Upsetting of Different Type Metals in the Absence of External Friction

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, 1960 Nr 1, pp 121-123 (USSR)

ABSTRACT: This is an analytical study of conditions required for reduction of a multilayer body in order to obtain identical relative deformations of all layers (with given mechanical properties of the system's components). This study is made on the assumption that uniform deformation is understood to mean the identical deformations of system's components only at the definite moments of deformation (and not at any moment of upsetting). For simplification, the authors consider a multilayer body, composed from the unlimited number of plates (parallel to the flat pressing dies) of

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M and T metals (soft M and hard T metals-binary system). They assume the initial yield points p_M and p_T, and moduli of strengthening θ_M and θ_T, respectively. They express the condition of uniformity of deformation during compression of such a binary system as:

$$\eta = \eta_M = \eta_T \qquad (1)$$

where η = joint true height deformation of the whole body; η_M and η_T = true height deformations of plates M and T, respectively. The joint height deformation of layers of softer metal is composed from two parts: before-critical deformation η_K and after-critical deformation η_M -when plastic deformation of plates M begins after the beginning of plastic deformation of plates T (Ref 3), G. E. Arkulis:

Conditions of Uniform Deformation During Joint Upsetting of Different Type Metals in the Absence of External Friction

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SOV/148-60-1-20/34

The Laws of Joint Plastic Deformation of Different Type Metals, Part 1, Relationship Between the Deformations. Collection of Scientific Papers, MGMI, Nr 4, Metallurgizdat, 1958). Taking into account the conditions of uniformity of deformation (Eq. 1), the authors write:

$$\eta = \eta_{кр} + \eta'_{м}. \qquad (2)$$

The authors refer to the previous work on the subject (Ref 4, G. E. Arkulis: Concerning the Theory of Joint Plastic Deformation of Different Type Metals. News of Institutions of Higher Education, Ferrous metallurgy, 1960, Nr 1) where it was shown that during the ideal joint upsetting of different type metals, there exists a relationship:

$$\eta'_{м} = \eta_{т}\theta,$$

Card 3/5

where θ = coefficient of relative strengthening,

which in this case (binary system), equals the ratio of moduli of strengthening of its components:

$$\theta = \frac{\theta_T}{\theta_M}. \qquad (3)$$

It was also shown before (Ref 4) that the critical stage of deformation of component M is bound to the modulus of initial heterogeneity of binary system. Then by substitution:

$$\eta = \eta^0 + \psi, \qquad (7)$$

which proves that a uniform deformation of all layers of multilayer body of binary system is possible even during the ideal upsetting, if total height deformation of the body is bound to the mechanical properties of its components by the relationship:

$$\eta = \frac{\psi}{1-\theta}. \qquad (8)$$

Conditions of Uniform Deformation During Joint Upsetting of Different Type Metals in the Absence of External Friction

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The authors conclude that the postulate of the theory of shape-changing, regarding the impossibility of uniform deformation of heterogeneous body in the absence of friction, cannot be generalized. The postulate was derived without taking into account the relationship between the shape-changing and dissimilarity of mechanical properties due to the heterogeneity of the body. There are 4 Soviet references.

ASSOCIATION: Magnitogorsk Mining-Metallurgical Institute (Magnitogorskiy gorno-metallurgicheskiy institut)

SUBMITTED: August 12, 1958

Card 5/5

21617

S/137/61/000/003/011/069
A006/A101

1.1300 also 1413, 1454

AUTHOR: Boyarshinov, M.I.

TITLE: The effect of friction between bimetal layers on the deformation resistance during rolling

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no.3, 1961, 10, abstract 3D75 ("Sb. nauchn. tr. Magnitogorskiy gornometallurg. in-t", 1960, no. 20, 5 - 15)

TEXT: In the case of developed interlayer bonds with high cohesion of the layers, the deformation of bimetal during rolling can, to a sufficient degree of accuracy, be considered as equal to the rated mean-proportional resistance of the individual layers. This regularity was checked on a Cu-steel bimetal at up to 55% relative compression within 20-950°C and different thickness of the coatings. In an asymmetrical (2-layer) bimetal, the deviation from the mean proportionality is greater than in a symmetrical (3-layer) bimetal. A reduction of cohesion forces on the layer surfaces entails greater deformation of the soft layers and reduced resistance to deformation against the mean-proportional resistance of the bimetal during rolling. The decrease of deformation resistance of harder layers, and its

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growth for softer layers is predetermined by changes in the system of strained state under the effect of mutual frictional action of the layers at non-uniform plastic deformation. The facilitated cold hardening capacity of the softer metal promotes the leveling of deformation of bimetal layers and approaches the deformation resistance to the mean-proportional value. The mechanical increase of the cohesion of layers (polishing or notching of surfaces) may, under conditions of direct pressure during rolling, assure deformation conditions approaching those of welded bimetal. When welding hard steels and alloys at insufficient power of the main motors or insufficient strength of the parts in the operational line, thick soft coatings (jackets) may be used to reduce the metal pressure on the rolls and the interlayer grease during cold rolling. Energy consumption for the process of plastic deformation should be less for the joining of layers of dissimilar ductility prior to rolling than for the separate rolling of the components and their subsequent joining. There are 13 references.

K. U.

[Abstracter's note: Complete translation.]

S/148/61/000/001/008/015
A161/A133

1.1300

AUTHORS: Boyarshinov, M. I., and Pimenov, A. F.

TITLE: The effect of speed on some skin-pass parameters

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 1, 1961, 130 - 138

TEXT: The article deals with the skin-rolling of cold-rolled sheet steel that is commonly used after annealing. Data of four German investigations of this matter are mentioned and the results of an investigation by the authors are presented. The investigations were carried out on a two-high skin mill shown in diagram (Fig. 1), with two coils, in rolling 11-ton tin steel strip coils 735 mm wide, 0.22 - 0.36 mm thick, after cold rolling in a continuous five-high mill and electrolytic degreasing. The following five factors were studied: 1) The effect of strip thickness on variations of stretching; 2) Variation of the stretching degree with different reduction and rolling speed; 3) The effect of friction on stretching; 4) The effect of the tension on stretching degree change; 5) The effect of the skin-rolling speed on metal pressure on the rolls. Each coil consisted of

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S/148/61/000/001/008/015
A161/A133

The effect of speed on some skin-pass parameters

four strips joined by welding. Subsequent annealing was effected in three-stand cupola furnaces in a protective atmosphere, at 650 - 690°C. The results are illustrated in graphs and compared to data of Billigmann and Pomp (Ref. 2: Stahl und Eisen, 1954, no. 8); Stawovy and Matthaey (Ref. 3: Blech, 1957, no. 11); Billigmann, Zenze and Schoenert (Ref. 4: Stahl und Eisen, 1959, no. 14). Conclusions: 1) Stretching decreases with an increasing skin rolling speed more rapidly at the beginning (during 3 - 5 m/sec speed), and then slower: at rolling speeds above 10 m/sec the decrease of stretching becomes insignificant. As it follows from the data by Billigmann and Pomp, the friction factor between strip and rolls increases with an increasing speed in dry rolling. Skin-passing is dry rolling (without lubrication), and the decreasing stretching may apparently be also explained by a high friction factor at higher rolling speeds. The formation of metal dust that is proportional to the speed increase contributes to an increase of friction. 2) The decrease of the stretching degree reaches 48 - 56% on polished rolls at certain conditions. 3) The decrease of the stretching degree is more intense in thinner strip. It is also more intense at higher initial stretching. The cause is one and the same: the screwdowns raise the pressure on

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The effect of speed on some skin-pass parameters

the work rolls; friction and ultimate strength of rolled metal are rising with increasing rolling speed, and this accounts for a more intense decrease in stretching. 4) If friction is higher in the 1st stand (rough rolls) the total stretching (due to the rolling out of the roughened strip surface by the polished work rolls in the 2nd stand) drops with increasing speed less (to 26%) than on polished rolls only (to 46.5%). 5) Tension decreases with increasing speed; at 10 m/sec the tension drop amounts to 21.4%. 6) Metal pressure on rolls rises with an increasing speed in proportion to the speed; at 10 m/sec the pressure increase is 10%. A decreasing tension between stands apparently also increases the pressure. 7) It is advisable to compensate decreasing stretching by increasing the strip tension in proportion to the increasing dressing speed. There are 5 figures and 4 non-Soviet-bloc references.

ASSOCIATION: Magnitogorskiy gorno-metallurgicheskiy kombinat (Magnitogorsk Mining and Metallurgical Combine)

SUBMITTED: May 17, 1960

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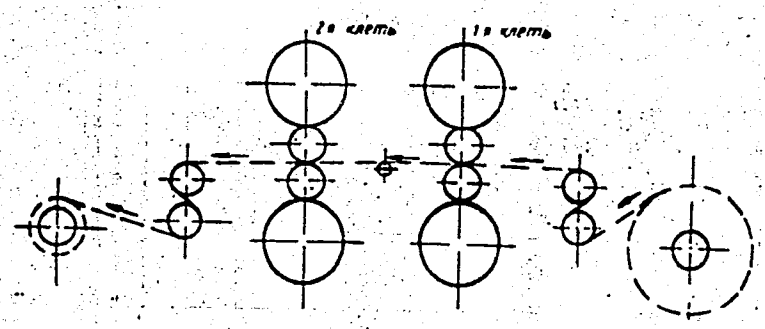
24209

S/148/61/000/001/008/015
A161/A133

The effect of speed on some skin-pass parameters

Fig. 1.



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18 5100

S/137/61/000/006/038/092
A006/A101

AUTHOR: Boyarshinov, M.I.

TITLE: The dependence of deformation resistance of a bimetal during rolling on reduction, temperature, thickness of the coating and cohesion of layer surfaces

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 6, 1961, 9, abstract 6D69 ("Tr. Konferentsii: Tekhn. progress v tekhnol. prokatn. proiz-va", Sverdlovsk, Metallurgizdat, 1960, 45 - 62)

TEXT: The author investigated the dependence of deformation resistance of a bimetal on the degree of deformation, the rolling temperature, the thickness and nature of the coating, and the cohesion strength of the bimetal layers. A comparison was made with the deformation resistance of the initial metals under the same conditions. The experiments were mainly carried out with Cu-steel bimetal. There are 9 references.

[Abstracter's note: Complete translation]

S. Golovanenko

Card 1/1

37240
S/148/62/000/003/005/011
E161/E435

1.1310
1.1800

AUTHORS: Boyarshinov, M.I., Arkulis, G.E., Brichko, G.A.

TITLE: Energy principles in the problem of the compression of layered bodies

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no.3, 1962, 88-94

TEXT: When bodies consisting of layers of different metals are compressed, three possible effects can occur: a selective deformation of the individual layers, a simultaneous uniform deformation of all layers or, lastly, a simultaneous nonuniform deformation in which all layers are deformed, but to different degrees, owing to slippage of layers one over the other. This paper considers the energy principles involved in these processes, especially in the case of forming metals by pressure. The general theoretical development is based on the principle of virtual work, applied to each layer of the body. The resulting equations are summed over all the layers and this leads to a variational equation. Special cases are then considered: firstly, in which the inter-layer forces do not vary and, secondly,

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in which they vary as functions of the displacements. The effect of the strengthening of specific layers is next considered and its application to forming metals by pressure. Equations are derived which can be utilized for the solution of problems concerning plastic form-change of a layered medium which is being work hardened. A specific example is comprehensively analysed - upsetting of metals under the influence of pressure. The model considered is a solid metal cylinder clad at each end with a different material, the whole being compressed by pressure directed inwards and applied by means of two horizontal plates. Application of the theory leads to expressions for the deformations of the claddings and of the central cylinder, and for the mean pressure at the contact surfaces during upsetting of bimetallic cylinders. There are 2 figures.

ASSOCIATION: Magnitogorskiy gornometallurgicheskiy institut (Magnitogorsk Mining Metallurgical Institute)

SUBMITTED: January 25, 1961

SKOROKHODOV, N.Ye., prof. otv. red.; AGAPOV, V.F., prof. po nauchnoy rabote, dots., red.; BOYARSHINOV, M.I., prof., red.; VESELOVSKAYA, Ye.S., red.; GAGEN-TORN, A.V., red.; GOL'DSHTEYN, N.A., red.; IVANOV, N.I., kand. tekhn. nauk, dots., red.; KORZH, P.D., prof., red.; PETROV, V.M., dots. kand. tekhn. nauk, red.

[30 years of the Magnitogorsk Mining and Metallurgical Institute] XXX let MGMI. Magnitogorsk, 1962. 170 p. (MIRA 17:3)

1. Magnitogorsk. Gorno-metallurgicheskiy institut. 2. Sekretar' partiynogo byuro Magnitogorskogo gorno-metallurgicheskogo instituta (for Petrov). 3. Dekan metallurgicheskogo fakul'teta Magnitogorskogo gorno-metallurgicheskogo instituta (for Ivanov). 4. Zaveduyushchiy kafedroy fiziki Magnitogorskogo gorno-metallurgicheskogo instituta (for Korzh). 5. Zaveduyushchiy kafedroy obrabotki metallov davleniye Magnitogorskogo gorno-metallurgicheskogo instituta (for Boyarshinov).

BOYARSHINOV, M.I., prof.; KURDYUMOVA, V.A., dotsent; KUPRIN, M.M., dotsent; SHTERNOV, M.M., kand.tekhn.nauk; SHULAYEV, I.P., inzh.; ROKOTYAN, Ye.S., prof., doktor tekhn.nauk

"Rolling mill practice" by P.I. Polukhin and others. Stal' 22 no.7:633-635 Jl '62. (MIRA 15:7)

1. Magnitogorskiy gorno-metallurgicheskiy institut i Magnitogorskiy metallurgicheskiy kombinat (for Boyarshinov, Kurdyumova, Kuprin, Shternov, Shulayev). 2. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut metallurgicheskogo mashinostroyeniya (for Rokotyan).

(Rolling (Metalwork))
(Polukhin, P.I.)

ANTONOV, S.P., inzh.; BOYARSHINOV, M.I., prof.; UZIYENKO, A.M., inzh.; KUSTOBAYEV, G.G., inzh.; RABINOVICH, Ye.I., kand.tekhn.nauk; RYABCHIKOV, F.D., inzh.

Improving the quality of rolled metal surfaces made of large ingots. Stal' 22 no.8:728-732 Ag '62. (MIRA 15:7)

1. Magnitogorskiy metallurgicheskiy kombinat i Magnitogorskiy gornometallurgicheskiy institut.

(Steel ingots)
(Rolling (Metalwork)--Quality control)

BOYARSHINOV, Mikhail Ivanovich, otv. red.; POLYAKOV, Mikhail Georgiyevich, red.; CHAPAYKINA, F.K., red. izd-va; MATLYUK, R.M., tekhn. red.

[Shaping metals by pressure]Obrabotka metallov davleniem; k 25-letiiu raboty kafedry obrabotki metallov davleniem MMI. Sverdlovsk, Metallurgizdat, 1962. 197 p. (MIRA 16:2)

1. Magnitogorsk. Gorno-metallurgicheskiy institut.
(Rolling (Metalwork)) (Wire drawing)

BOYARSHINOV, M.I.; BOROVIK, L.I.

Roll loading limit on four-high cold rolling mill stands. Izv. vys.ucheb.zav.; chern.met. 5 no.11:121-127 '62. (MIRA 15:12)

1. Magnitogorskiy gornometallurgicheskiy institut.
(Rolling mills)

BOYARSHINOV, M.I., prof.; SHULAYEV, I.P., inzh.

Improving the grooving of continuous billet mills.
Stal' 22 no.10:931-933 O'62. (MIRA 15:10)

1. Magnitogorskiy gornometallurgicheskiy institut i Magnitogorskiy metallurgicheskiy kombinat.
(Rolling mills)

S/148/63/000/001/008/019
E193/E383

AUTHORS: Boyarshinov, M.I. and Pimenov, A.F.

TITLE: The effect of roughening of the roll surface on the degree of deformation during planishing of steel plate

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no. 1, 1963, 89 - 96

TEXT: The object of the present investigation was to explore the possibility of improving both the planishing operation and the quality of the finished plate, suitable for subsequent tinning, by using rolls with a rough surface. To this end, the effect of the variation of the contact friction, roll diameter and width of the plate on the degree of deformation during planishing was studied. The conditions under which a defect known as "distortion of the plate geometry" could occur were also investigated. Steel 08КП (08KP) was used in the experiments conducted on specimens 712 mm long, 0.20-1.0 mm thick and 30-712 mm wide, rolled on a four-high production stand or on a two-high laboratory stand with rolls 500 or 200 mm in diameter. Polished, ground and roughened surfaces were used, the roll-surface finish being, respectively,

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The effect of roughening ....

class 10, 7 and 5-6, class 10 corresponding to $H_{sk} = 0.287\ \mu$ and class 6 to $H_{sk} \leq 3.25\ \mu$. No lubricants were used in the rolling experiments, the increase in contact friction being attained with the aid of sand or powdered chalk. Typical results demonstrating the combined effect of various factors on the degree of deformation are reproduced in Fig. 2, where the reduction (ε. %) is plotted against the initial thickness (mm) of the plate; the values of B(mm) given in each graph represent the width of the plate; curves 1 and 3 relate to results obtained on rough rolls, curves 2 and 4 to those obtained on polished rolls; the diameter of the rolls was 500 mm (curves 1 and 2) or 192 mm (curves 3 and 4). The results indicated that the effect of increasing the contact friction depended on the B/H ratio, where B is the width and H is the thickness of the plate. If ε_{μ_1} and ε_{μ_2} denote, respectively, the reduction attained on rough and polished rolls, it was found that the ratio $\varepsilon_{\mu_1} / \varepsilon_{\mu_2} = \lambda$ was less than unity for low values of B/H, becoming equal to unity for a critical value of B/H = 500-1000 and being

The effect of roughening ....

greater than unity at B/H exceeding this critical value (the critical value of B/H increased with decreasing roll diameter). This means that for a given width of the plate and a given roll diameter, greater deformation can be attained by increasing the contact friction, i.e. by using roughened rolls only if the thickness of the plate is less than its critical value. The results of experiments in which the plate was rolled on a stand with the bottom and top rolls having a different surface finish indicate that the distortion of the plate (upwards or downwards bending of the plate when cut into short lengths), which sometimes occurs in practice, is caused by a different rate of wear of the top and bottom rolls; this effect was more pronounced when polished rolls were used. There are 3 figures and 3 tables.

ASSOCIATION: Magnitogorskiy gorno-metallurgicheskiy institut (Magnitogorsk Institute of Mining Metallurgy)

SUBMITTED: December 6, 1961

BOYARSHINOV, M.I.; GRITSUK, N.F.

Role of the geometric factor of deformation in the development of torsion of a bloom section during rolling. Izv. vys. ucheb. zav.; chern. met. 6 no.8:68-71 '63. (MIRA 16:11)

1. Magnitogorskiy gornometallurgicheskiy institut.

BOYARSHINOV, M.I.; BURYKIN, A.A.

Springiness during shape rolling. Izv. vys. ucheb. zav.; chern. met. 6 no.9:126-132 '63. (MIRA 16:11)

1. Magnitogorskiy gornometallurgicheskiy institut.

BOYARSHINOV, M.I.; LITOVCHENKO, N.V.; KURDYUMOVA, V.A.

Grooving the new semicontinuous wire rod mill intended for the rolling of copper rod. TSvet. met. 36 no.9:70-75 S '63. (MIRA 16:10)

BOYARSHINOV, M.I.; SHULAYEV, I.P.

Investigating high-speed rolling on continuous 630 and 720 billet mills. Izv. vys. ucheb. zav. chern. met. 6 no.10:69-73 '63. (MIRA 16:12)

1. Magnitogorskiy gornometallurgicheskiy institut.

ACCESSION NR: AT4030816 S/0000/64/000/000/0299/0302

AUTHOR: Boyarshinov, M. I.; Arkulis, G. E.; Brichko, G. A.

TITLE: On calculating the irregularity of deformation in plastic compression of bimetal strips

SOURCE: Nauchno-tekhnicheskaya mezhvuzovskaya konferentsiya po inzhenerny*m metodam raschetov tekhnologicheskikh protsessov obrabotki metallov davleniyem. Sverdlovsk, 1961. Inzhenerny*ye metody* rascheta tekhnologicheskikh protsessov obrabotki metallov davleniyem (engineering methods in calculating technological processes of metal working by pressure); Doklady* konferentsii. Moscow, Metallurgizdat, 1964, 299-302

TOPIC TAGS: deformation, compression, bimetal strip, plating, stress, pressure

ABSTRACT: In this paper, the authors made an approximate calculation of the deformation irregularity in plastic compression between parallel plates of strips plated on both sides with a softer material. The authors used a method of averaging one of the main stresses. They assumed: 1) that the stresses arising in the layered strip during its compression do not change in the thickness of each layer, 2) the forces of internal friction and the interlayer adhesion are uniformly distributed

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ACCESSION NR: AT4030816

along the contact surfaces; the forces of interlayer adhesion are passive, and 3) the forces of friction are assumed to be proportional limits of consistency of the deformed metals, while the interlayer forces of friction are proportional to the limit of consistency of the soft metal. Through a series of mathematical arguments, the authors arrived at formulas for the three separate zones of deformation. They concluded that by a similar method it is possible to resolve the problem in determining the deformation irregularity of the layers when a harder metal is used as a plating layer. Determining the deformation irregularity by a similar method in the sagging of bimetal cylinders or in the rolling of bimetal strips is more complex since in these cases supplementary stresses within the deformed volumes appear as a consequence of the deformation irregularity. Orig. art. has: 11 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 30Oct63 DATE ACQ: 06Apr64 ENCL: 00

SUB CODE: ML NO REF SOV: 000 OTHER: 000

Card 2/2

BR

ACCESSION NR: AT4030817 S/0000/64/000/000/0303/0307

AUTHOR: Boyarshinov, M. I.; Arkulis, G. E.; Brichko, G. A.

TITLE: Experiment for calculating the rolling of bimetal sheets

SOURCE: Nauchno-tekhnicheskaya mezhvuzovskaya konferentsiya po inzhenerny*m metodam raschetov tekhnologicheskikh protsessov obrabotki metallov davleniyem. Sverdlovsk, 1961. Inzhenerny*ye metody* rascheta tekhnologicheskikh protsessov obrabotki metallov davleniyem (engineering methods of calculating technological processes of metal working by pressure); Doklady* konferentsii. Moscow, Metallurgizdat, 1964, 303-307

TOPIC TAGS: bimetal sheet, rolling, deformation, plastic deformation, mechanical property, layer, interlayer friction, friction

ABSTRACT: The authors examined the forces and deformations in rolling bimetal sheets on smooth rollers. The rolling of bimetal strips were separated into the following cases: 1) the state of joint deformation unfulfilled in one cross-section of the deformation focus, then only selective deformation occurs, 2) the state of joint deformation fulfilled throughout the entire length of the deformation focus, then selective deformation is completely absent, and 3) in the presence of

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ACCESSION NR: AT4030817

selective deformation at the beginning of the deformation focus and the further joint deformation of layers. The rolling of a strip, plated on both sides by a softer metal, was examined. The specific pressure acting in the deformation along each of the three possible variants, and the state in which selective deformation would be absent were determined. Through a series of mathematical arguments, the authors arrived at equations for each of the three above-mentioned cases. Orig. art. has: 14 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 30Oct63 DATE ACQ: 06Apr64 ENCL: 00

SUB CODE: ML NO REF SOV: 004 OTHER: 000

Card 2/2

BOYARSHINOV, M.I.; GRITSUK, N.F.

Stability of thick strips during their rolling with smooth rolls.
Izv. vys. ucheb. zav.; chern. met. 7 no.3:102-106 '64.
(MIRA 17:4)

1. Magnitogorskiy gornometallurgicheskiy institut.

BOYARSHINOV, M.I.; MEL'TSER, V.V.

Negative advancing during rolling. Izv. vys. ucheb. zav.; chern. met. 7 no.9:106-112 '64. (MIRA 17:6)

1. Magnitorgorskiy gornometallurgicheskiy institut.

PT-4 JD/IW

ACCESSION NR AP5005251 BOOK EXPLOITATION S/

Litovchenko, Nikita Vasil'yevich; Antonov, Sergey Pavlovich; Boyarshinov, Mikhail Ivanovich; Plotnikov, Petr Ivanovich

Steel plate production (Proizvodstvo tolstolistovoy stali), Moscow, Izd-vo "Metallurgiya", 1964, 306 p. illus., biblio. Errata slip inserted. 2,150 copies printed.

TOPIC TAGS: rolling mill, sheet metal, automation, steel

PURPOSE AND COVERAGE: The book describes experience in the rolling of steel plate in Soviet metallurgical plants and shows the prospects for the development of plate rolling mills. It considers in detail the heat of ingots and slabs, production of bimetallic sheet, equipment automation and the technical-economic indicators of rolling mills. The book is intended for engineers and technicians in production of steel plate and can be used by students in metallurgical higher educational institutions and technicums.

TABLE OF CONTENTS (abridged):

Introduction -- 5

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ANTONOV, Sergey Pavlovich; BOYARSHINOV, Mikhail Ivanovich; KUPRIN, Mikhail Ionovich; PIMENOV, Aleksandr Fedorovich; RADYUKEVICH, Leonid Vladimirovich; SHAKIROV, Nur Mazitovich;

[Cold sheet-steel rolling] Kholodnaia prokatka zhesti. Moskva, Metallurgiia, 1965. 266 p. (MIRA 18:3)

L 04310-67 EWP(k)/EWT(m)/EWP(t)/ETI IJP(c) JD/HW
ACC NR: AP6018261 (N) SOURCE CODE: UR/0133/66/000/002/0146/0151

AUTHORS: Boyarshinov, M. I. (Professor); Fayzullin, V. Kh. (Engineer); Karlik, M. I. (Engineer)

31
B

ORG: none

TITLE: Investigation into the causes of longitudinal thickness nonuniformity and its elimination during continuous strip rolling

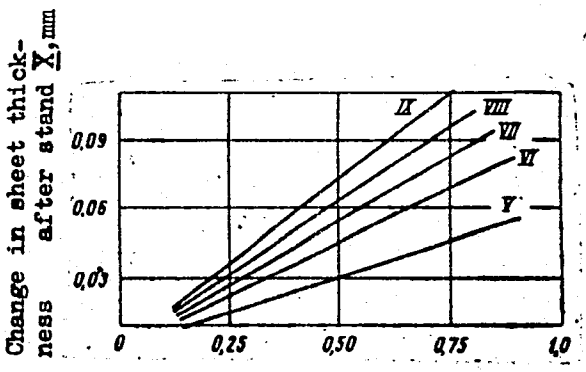
SOURCE: Stal', no. 2, 1966, 146-151

TOPIC TAGS: sheet metal, steel, carbon steel, steel forging, metal rolling / St2 steel, 08kp steel, 15kp steel, St3 steel

ABSTRACT: The parameters which determine the thickness of continuously rolled sheets were investigated. The investigation was carried out on the sheet-metal rolling mill 1450 of the Magnitogorskiy Metallurgical Concern (Magnitogorskiy metallurgicheskiy kombinat). The effect of rolling temperature and tension on the thickness uniformity of low-carbon steel sheets was studied. The stand temperatures were calculated after the method of P. Lee, R. Sims, and H. Wright (Iron and Steel, 1962 v. 35, No. 14, p. 624--627), and the deformation resistance as a function of the rate of deformation, the temperature, and magnitude of compression was calculated after V. I. Zyuzin, M. Ya. Brovman, and A. F. Mel'nikov (Soprotivleniye deformatsii staley pri goryachey prokatke, Izd. Metallurgiya, 1964, str. 211--233). The experimental results are presented in

Card 1/2 UDC: 621.771.24

graphs and tables (see Fig. 1).



Change in the position of compression bolts z, m.

Fig. 1. Dependence of the decrease of sheet thickness Δ on the change in the position of compression bolts z, for stands V-IX, for additional pressure applied to these stands.

The following relationship between the distribution of the rolling stand pressure and the change in the sheet thickness was established

$$\Delta h_i = z_n \sum_{i=0}^{m} \frac{v_n}{v_{n+1}} \cdot \frac{1}{w_{n+1}},$$

where Δh_i is the change in longitudinal thickness, z_n - the position of compression bolt, v_n - rate of rolling, and $w = z/\Delta$. The indexes n and n + 1 refer to the stand numbers. It is concluded that an accurate knowledge of the relationship ω permits an accurate control of sheet thickness. Orig. art. has: 2 tables, 5 graphs, and 2 equations.

Card 2/2 SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

BOYARSHINOV, P.K.

(Scientific Research Veterinaro-Sanitary Laboratory, Executive Committee, Moscow City Soviet) More on current disinfection

So: Veterinariya; 23; 10-11; October/November 1946

KUKHARKOVA, L.L., starshiy nauchnyy sotrudnik; ADUTSKEVICH, V.A., kand. veterinarnykh nauk; BOYARSHINOV, P.K., kand.veterinarnykh nauk; PEROVA, P.V., kand.veterinarnykh nauk

Diagnostics, sterilization and utilization of abattoir products obtained from farm animals affected with listerellosis.
Trudy VNIIMP no.9:148-151 '59. (MIRA 13:8)
(Cattle--Diseases and pests)
(Listerellosis)
(Meat inspection)

KUKHARKOVA, L. L., BOYARSHINOV, P. K., ADUTSKEVICH, V. A. and PETROVA, P. V.

"About the problem of sanitary estimation of meat during listerilosis."

Veterinariya Vol. 37, No. 3, 1960, p. 74

All-Union Sci. Res. Inst. Meat Industry

BOYARSHINOV, P. K., PEROVA, P. V., KURIAKOVA, L. L. and ABUSHKEVICH, V. A.

"Before- and after slaughter diagnostics of listeriosis in pigs and sheep."

Veterinariya, Vol. 37, No. 5, 1960, p. 61

All-Union Sci. Res. Inst. Meat Industry

KUKHARKOVA, L.L.; BOYARSHINOV, P.K.; ADUTSKEVICH, V.A.; PEROVA, P.V.

Hygienic evaluation of meat in listeriosis. Veterinariia 37 no.3: 74-79 Mr '60. (MIRA 16:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti.
(Listeriosis) (Meat--Microbiology)

KUKHARKOVA, L.L., starshiy nauchnyy sotrudnik; ADUTSKEVICH, V.A., kand. veterin. nauk; BOYARSHINOV, P.K., kand. veterin. nauk; PEROVA, P.V., kand. veterin. nauk; SHUR, I.V., prof., konsul'tant

Sanitary examination of meat and meat products from animals affected by listerellosis and its diagnosis. Trudy VNIIMP no.11:178-193 '62. (MIRA 18:2)

KUKHARKOVA, L.L., starshiy nauchnyy sotrudnik; BOYARSHINOV, P.K., kand. veterinarnykh nauk; IL'YASHENKO, M.A., kand. veterinarnykh nauk; STEFANOV, A.V.

Development of the method for the disinfection of leather and fur raw materials from animals affected by listeriqsis. Trudy VNIIMP no.13:64-69 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti (for Kukharkova, Boyarshinov, Il'yashenko). 2. Starshiy bakteriolog Moskovskogo mesnogo kombinata (for Stefanov).

BOYARSHINOV, S.I.

AID P - 1906

Subject : USSR/Engineering

Card 1/1 Pub. 29 - 11/25

Author : Boyarshinov, S. I., Foreman

Title : Repair of insulators of "Mostofin" Salimeters

Periodical : Energetik, no.2, 18-19, F 1955

Abstract : Insulators of senders in the "Mostofin" salimeters frequently fail under heavy load or high temperatures. The article describes how they can be repaired without sending them out of the laboratory. One drawing.

Institution: None

Submitted : No date

AID P - 3071

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 5/29

Author : Boyarshinov, S. P., Foreman

Title : Signaling the interruption of operation of a feed water regulator of the ARI-IV type

Periodical : Energetik, 7, 11-12, Jl 1955

Abstract : The feed water regulator ARI-IV is built by the Plant "Energodetal'". Its inconvenience consists in the fact that it works intermittently and in case of the failure of the a-c voltage totally or on one of the three phases, and also of d-c voltage, this fact may go unnoticed until a boiler accident occurs. The author presents an arrangement to signal the disappearance of the voltage, and describes its details. Two drawings.

Institution : None

Submitted : No date

BOYARSHINOV, S.P., master.

Automatic control of pressure in the supply line. Energetik 4 no.1:18-20 Ja '56. (MLRA 9:4)
(Pumping machinery) (Automatic control)

BOYARSHINOV, S. V.

"Computing Thick Walled Cylinders With Function Under the Action of Axial-Symmetrical Loading" an article in the book "Computing the Stability, Hardness and Creep of Elements in Machine Construction," Mashgiz, 1953, p. 106.

BOYARSHINOV, S.V., inzhener.

Calculation of thick-walled hollow cylinders subjected to arbitrary axisymmetric load. [Trudy] MVTU no.26:106-124 '53. (MLRA 7:5)
(Elastic plates and shells)

BOYARSHINOV, S.V., inzhener.

Graphic determination of basic deformation by means of deformation circle. [Trudy] MVTU no.26:250-254 '53. (MLRA 7:5)
(Deformations (Mechanics)--Graphic methods)

BOYARSHINOV, S.V.

ANDREYEV, L.Ye., kandidat tekhnicheskikh nauk; BIDERMAN, V.L., kandidat tekhnicheskikh nauk; BOYARSHINOV, S.V., kandidat tekhnicheskikh nauk; VOL'MIR, A.S., doktor tekhnicheskikh nauk; DIMENTBERG, F.M. kandidat tekhnicheskikh nauk; ZASLAVSKIY, S.M., inzhener; KINASOSHVILI, R.S., doktor tekhnicheskikh nauk, professor; KOVALENKO, A.D.,; MAKUSHIN, V.M., kandidat tekhnicheskikh nauk MALININ, N.N., kandidat tekhnicheskikh nauk; PONOMAREV, S.D., doktor tekhnicheskikh nauk; PRIGOROVSKIY, N.I., doktor tekhnicheskikh nauk; TETEL'BAUM, I.M., kandidat tekhnicheskikh nauk; UMANSKIY, A.A., doktor tekhnicheskikh nauk, professor; FEODOS'YEV, V.I., doktor tekhnicheskikh nauk; SERENSEN, S.V., redaktor; TRAPEZIN, I.I., kandidat tekhnicheskikh nauk, redaktor; KARGANOV, V.G., inzhener, redaktor; SOKOLOVA, T.F., tekhnicheskiy redaktor.

[Mechanical engineer's manual; in 6 volumes] Spravochnik mashinostroitelia; v shesti tomakh. Izd.2-e, ispr. i dop. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry. Vol.3, 1955. 563 p. (MLRA 8:12)
(Mechanical engineering)

BOYARSHINOV, S.V., kandidat tekhnicheskikh nauk, dotsent.

Design of cylindrical vessels. Vest. mash. 37 no.7:13-15 Jl '57. (MLRA 10:8)
(Cylinders)

SOV/122-59-3-8/42

AUTHOR: Boyarshinov, S.V., Candidate of Technical Sciences

TITLE: The Stress Analysis of Ring-shaped Components under Arbitrary Axially Symmetrical Loading (Raschet detaley, imeyushchikh formu kol'tsa pri proizvol'noy ososimmetrichnoy nagruzke)

PERIODICAL: Vestnik Mashinostroyeniya, 1959, Nr 3, pp 27-32 (USSR)

ABSTRACT: Stress analysis methods for ring-shaped components are considered for shapes roughly half-way between a ring plate and a circular shell. These can be treated as curved beams. The analysis resembles that of Zhmud' A.E. (Symposium "Gidroturbostroyeniye", Mashgiz 1956) and rests on several assumptions: 1) radial cross-sections are displaced or turned but not distorted; 2) the stressed state at all points of the radial cross-section is uni-axial; 3) the angle of twist (in radian) for any cross-section is a small fraction of unity. A proof is given that the neutral axis under these conditions is normal to the ring axis. To find the stresses, the position of the neutral axis and the magnitude of the angle twist are required. An analytical procedure is given to evaluate these quantities. After choosing

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The Stress Analysis of Ring-shaped Components under Arbitrary Axially Symmetrical Loading

an arbitrary line parallel to the neutral axis, certain integrals are computed, after which, from Eq (7), the position of an axis of symmetry is found. Another integral is computed and from the equilibrium of one-half of the ring, the normal force and the bending moment about the axis of symmetry are found. Eqs (11) and (12) then yield the angle of twist and the distance of the neutral axis from the axis of symmetry. The most highly stressed point in the ring cross-section is that viewed from the intersection of the neutral axis and the ring axis at the most acute angle to the ring axis. The general stress distribution can be found from Eqs (13a) and (13b). The examples treated in detail include a ring of rectangular cross-section loaded by a bursting pressure or with forces distributed around the inner and outer edges. In these instances exact solutions

The Stress Analysis of Ring-shaped Components under Arbitrary Axially Symmetrical Loading

exist. The errors of the approximate solutions are mostly within 10%. A third numerical example is the half-torus of a hydraulic coupling.

There are 10 figures, 2 tables and 3 Soviet references.

BOYARSHINOV, S.V., dotsent

Some technical applications of the theory of axisymmetric deformations of a thin-walled cylindrical shell. Rasch.na prochn. no.6: 3-55 '60. (MIRA 14:1)

(Elastic plates and shells)

SMELYANSKIY, Matvey Yakovlevich; GUTERMAN, Kirill Davydovich; BOYARSHINOV, V.A., kand. tekhn.nauk, retsenzent; TKACHEV, L.G., inzh., red.; YEMZHIN, V.V., tekhn. red.

[Design and operation of vacuum arc furnaces]Rabochii protsess i raschet vakuumnykh dugovykh pechei. Moskva, Gosenergoizdat, 1962. 111 p. (Biblioteka elektrotermista, no.12) (MIRA 15:11)

(Electric furnaces--Design and construction)
(Vacuum metallurgy)

AGAMIROV, V.L., kand. tekhn. nauk; AMEL'YANCHIK, A.V., inzh.; ANDREYEVA, L.Ye., kand. tekhn. nauk; BIDERMAN, V.L., doktor tekhn. nauk; BOYARSHINOV, S.V., kand. tekhn. nauk; VOL'MIR, A.S., prof., doktor tekhn. nauk; DIMENTBERG, F.M., doktor tekhn. nauk; KOSTYUK, A.G., kand. tekhn. nauk; MAKUSHIN, V.M., kand. tekhn. nauk; MASLOV, G.S., kand. tekhn. nauk; MALININ, N.N., prof., doktor tekhn. nauk; PONOMAREV, S.D., prof. doktor tekhn. nauk; PRIGOROVSKIY, N.I., prof., doktor tekhn. nauk; SERENSEN, S.V., akademik; STEPANOVA, V.S., inzh.; STRELYAYEV, V.S., inzh.; TRAPEZIN, I.I., prof., doktor tekhn. nauk; UMANSKIY, A.A., prof., doktor tekhn. nauk; FEODOS'YEV, V.I., prof., doktor tekhn. nauk; SHATALOV, K.T., doktor tekhn.nauk; YUMATOV, V.P., kand. tekhn. nauk; BLAGOSKLONOVA, N.Yu., red. izd-va; YEVSTRAT'YEV, A.I., red. izd-va; SOKOLOVA, T.F., tekhn. red.

[Manual for a mechanical engineer in six volumes] Spravochnik mashinistroitelia v shesti tomakh. Red. sovet N.S.Acherkan i dr. Izd.3., ispr. i dop. Moskva, Mashgiz. Vol.3. 1962. 651 p. (MIRA 15:4)

1. Akademiya nauk USSR (for Serensen).
(Machinery--Design)

BOYARSHINOV, S.V., kand.tekhn.nauk

Approximate calculation of thick-walled hollow cylinders subjected to axisymmetrical loading. Raśch.na prochn. no.8:53-96 '62. (MIRA 15:8)

(Cylinders)

VINOGRAD, M.I., kandidat tekhnicheskikh nauk; BOYARSHINOV, V.A., redaktor; MILLER, A.I., redaktor; ATTOPOVICH, M.K., tekhnicheskiy redaktor.

[Nonmetallic impurities in steel used in roller bearings.] Nemetallicheskie vkliucheniia v sharikopodshipnikovoi stali. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi metallurgii, 1954. 123 p. (MLRA 8:3)
(Roller bearings) (Steel--Metallography)

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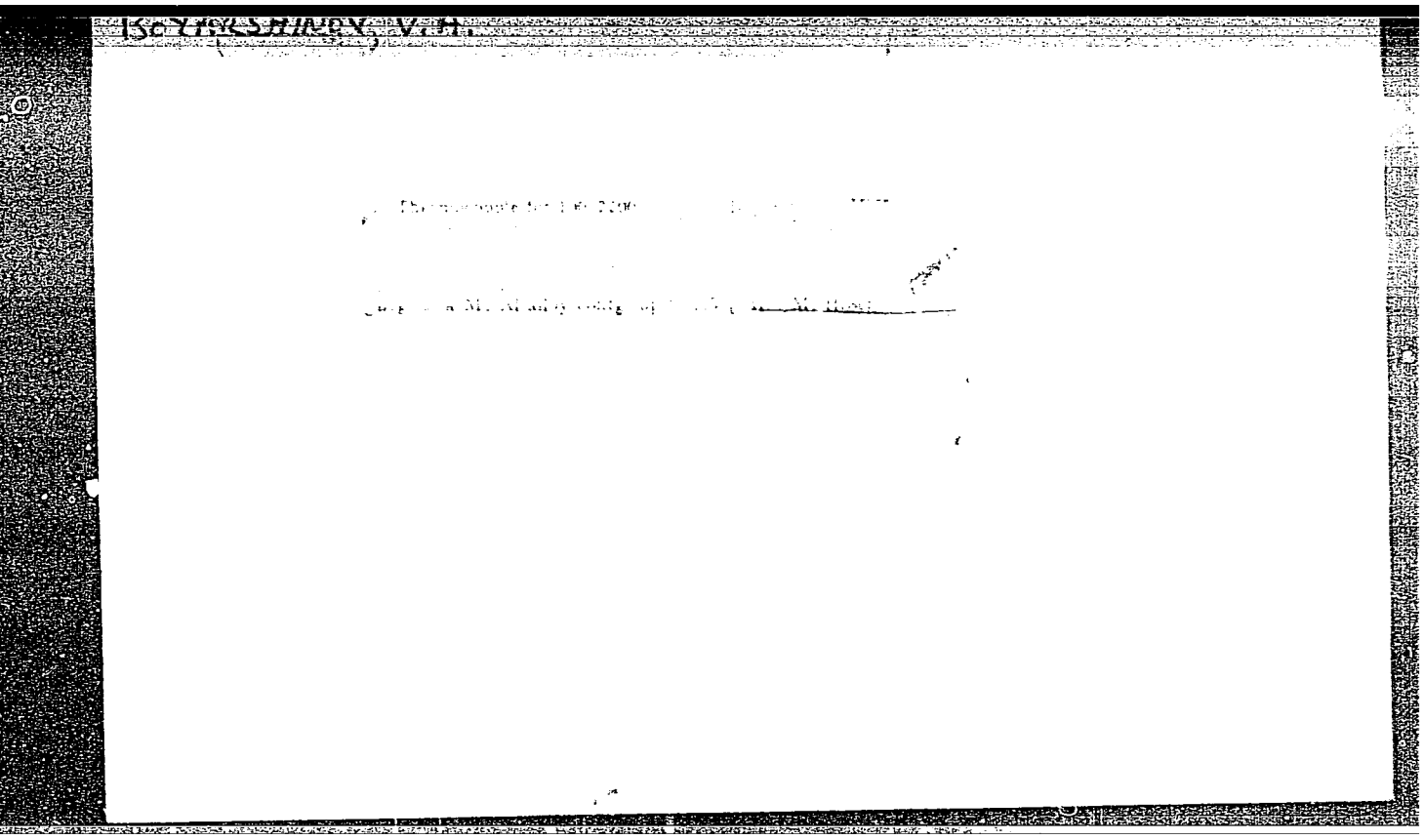
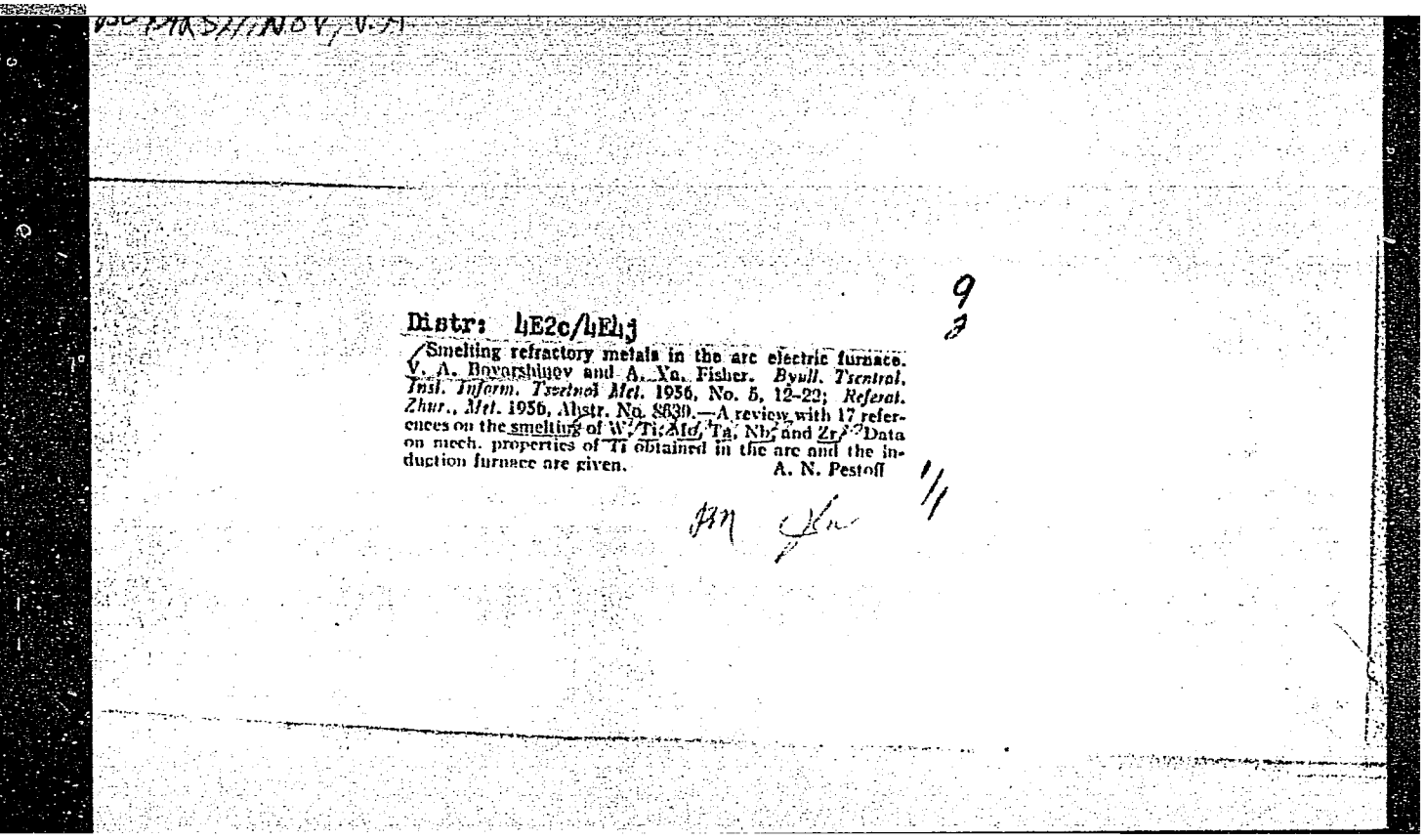
[The production of steel] Proizvodstvo stali. Khar'kov, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955, 519 p.
(Steel) (MIRA 8:4)

VOINOV, S.G., kandidat tekhnicheskikh nauk; BOYARSHINOV, V.A., inzhener.

Non-metallic inclusions in ball-bearing steel. Stal' 15 no.1:46-53 Ja '55. (MIRA 8:5)

1. TsNIICHM.
(Steel—Metallography)





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Smelting refractory metals in the arc electric furnace. V. A. Boyarshinov and A. Ya. Fisher. *Byull. Tsentral. Inst. Inform. Tsvetnoi Met.* 1956, No. 5, 12–23; *Referat. Zhur., Met.* 1956, Abstr. No. 8630.—A review with 17 references on the smelting of W, Ti, Mo, Ta, Nb, and Zr. Data on mech. properties of Ti obtained in the arc and the induction furnace are given.

A. N. Pestoff

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[Technology of stainless steel production] Tekhnologiia proizvodstva nerzhaveiushchei stali. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 202 p. (MLRA 10:5)

(Steel, Stainless)

SMELYANSKIY, Matvey Yakovlevich; BOYARSHINOV, Vladimir Arkad'yevich; GUTERMAN, Kirill Davidovich; TKACHEV, Leonid Grigor'yevich; TSISHEVSKIY, Vsevolod Petrovich; YEZDOKOVA, M.L., red. izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Vacuum arc furnaces and electronic melting plants]Dugovye vakuumnye pechi i elektronnye plavil'nye ustanovki. Moskva, Metallurgizdat, 1962. 210 p. (MIRA 16:2)
(Electric furnaces) (Vacuum metallurgy)
(Electronic apparatus and appliances)

BOYARSHINOV, VLADIMIR ARKAD'YEVICH

PHASE I BOOK EXPLOITATION SOV/6343

Smelyanskiy, Matvey Yakovlevich, Vladimir Arkad'yevich Boyarshinov, Kirill Davidovich Gutterman, Leonid Grigor'yevich Tkachev, and Vsevolod Petrovich Tsishevskiy

Dugovyye vakuumnyye pechi i elektronnyye plavil'nyye ustanovki (Vacuum Arc Furnaces and Electron-Beam Melting Units) Moscow, Metallurgizdat, 1962. 210 p. Errata slip inserted. 2400 copies printed.

Ed. of Publishing House: M. L. Yezdokova; Tech. Ed.: P. G. Islent'-yeva.

PURPOSE: This book is intended for engineering personnel of electro-metallurgical plants in ferrous and nonferrous branches of the metallurgical industry and machine building. It may also be use-ful to students at metallurgical and power-engineering schools of higher education and to members of scientific research organiza-tions.

Card 1/5

Vacuum Arc Furnaces (Cont.) SOV/6343

COVERAGE: The book describes the new vacuum melting equipment and electron-beam melting units which have been introduced in large industrial countries during the last few years and which yield metals of specific quality and enhanced properties. Special metallurgical features of the units, their operation, and the thermal and electrical processes taking place in them are discussed. Electrical equipment and problems of its layout and automatic control are also outlined. The Introduction was written by V. A. Boyarshinov and M. Ya. Smelyanskiy; Ch. I, by M. Ya. Smelyanskiy and K. D. Gutterman; Ch. III, by M. Ya. Smelyanskiy; Ch. II, by V. A. Boyarshinov; and Chs. IV and V, by V. P. Tsishevskiy. All materials on electron-beam melting and related equipment were written by L. G. Tkachev and M. Ya. Smelyanskiy, and materials on semiconductor power sources, as well as automatic control of vacuum furnaces, by K. D. Gutterman. General editing was by M. Ya. Smelyanskiy and V. P. Tsishevskiy. The authors thank the members of the All-Union Scientific Research Institute of Electrothermal Equipment for their assistance. There are 73 references, mostly Soviet.

Card 2/5

KHASIN, G.A.; KOLYASNIKOVA, R.I.; VACHUGOV, G.A.; BOYARSHINOV, V.A.; GAVRILOV, O.T.; ALEKSEYENKO, M.F.; MELIKHOV, P.I.; VYBORNOV, A.F.

Electric slag refining of stainless, heat-resistant steel.
Stal' 23 no.10:908-910 O '63. (MIRA 16:11)

L 39469-65 EPA(s)-2/EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pt-10/Pu-4 JD/WW/JG

ACCESSION NR: AP4047869 S/0279/64/000/005/0035/0044 39 B

AUTHOR: Shalimov, A.G. (Moscow); Okorokov, G.N. (Moscow); Boyarshinov, V.A. (Moscow)

TITLE: Simulation of the process of vacuum degassing liquid steel

SOURCE: AN SSSR, Izvestiya. Metallurgiya i gornoye delo, no. 5, 1964, 35-44

TOPIC TAGS: liquid steel, vacuum degassing, decarburization

ABSTRACT: The effect of pressure on the formation and growth of gas bubbles in vacuum degassing of liquid steel was studied from simulated hydrodynamic operations in a transparent model. Although absolute values for the decarburization of molten steel under vacuum could not be established from this miniature operation, the following conclusions were derived. The last few millimeters of pressure should be reduced. Lowering the pressure of the metal bath from 200 to 1.0 mm mercury tripled the amount of gas carried by each bubble and increased the agitation of the upper zone of the bath. The surface boiling or blowing removed gas from liquid containing even small amounts of dissolved gas, so the

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ACCESSION NR: AP4047869 0

overall decarburization rate was increased much more than three times by the indicated pressure reduction. Reducing the pressure below 1.0 mm Hg did not improve the degassing effect any further. Degassing occurred primarily at the surface zone of the bath-- 70-80% of the gas in the bubbles came from the top 15-20% of the bath. Orig. art. has: 7 figures, 20 equations and 2 tables.

ASSOCIATION: None

SUBMITTED: 29Aug63 ENCL: 00 SUB CODE: MM

NR REF SOV: 005 OTHER: 005

Card 2/2

L 16306-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(b) MJW/JD
ACCESSION NR: AP4045659 S/0133/64/000/009/0836/0839

AUTHOR: Gavrilov, O. T.; Boyarshinov, V. A.; Shalimov, Al. G.; Dolinin, D. P.; Khasin, G. A.; Kolyasnikova, R. I.; Savenok, L. L.

TITLE: Quality of vacuum-arc-melted ball-bearing steel

SOURCE: Stal', no. 9, 1964, 836-839

TOPIC TAGS: ball bearing steel, ShKh 15 ball bearing steel, vacuum arc melted ShKh 15 steel, high grade ShKh 15 steel, improved melting method

ABSTRACT: A study has been made to determine the causes of flaws in consumable-electrode vacuum-arc-melted ShKh 15 steel for ball bearings and to find the means to eliminate them. As a result, several improvements in melting technique have been adopted, so that it now is possible to obtain high-grade steel for precision and special-purpose ball bearings by a single vacuum-arc melting of the ShKh 15-steel consumable electrodes. The "spot" inhomogeneity of the ingots, formerly the cause of 90% of the rejects, was fully eliminated by using symmetrical coaxial current conductor and by eli-

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ACCESSION NR: AP4045659

minating nonsymmetrical magnetic masses. Light stringers, or stratified crystallization, were completely eliminated by automatic control of the electrode feed. Another type of ingot flaw, bright spots containing 0.04—0.05% less carbon than the bulk of the metal, was eliminated by improving the electrode holders and by leaving a portion of the electrode, 100—200 mm long, unmelted. The ingot pipe was eliminated by gradually decreasing the arc current from 4.0—4.4 Ka to 0.8—1.2 Ka during the last 10—15 min of melting. Orig. art. has: 10 figures and 3 tables.

ASSOCIATION: TsNIIChM and Zlatoustovskiy metallurgicheskiy zavod (Zlatoust Metallurgical Plant)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 000 OTHER: 000

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